ABSTRACT

The present invention combines a data processing structure with a graphical user interface (GUI) to create an information analysis tool wherein multiple functions are combined in a network to extract information from multiple data sources. The functional network is created, and graphically represented to the user, by linking individual operations together. The combination of individual operations is not limited by the input or output characteristic of any single operation. The form of the input to or output from any individual operation, whether from a database or from another operation, is the same. That is, both the input to and the output from an analysis function is a list of document identifiers and corresponding document characteristics. Because the form of the input and output from each operation is the same, arbitrary combinations of operations may be created. Moreover, functional networks of individual operations can then be used for database retrieval as well as to filter data streams. Furthermore, the user is able to create a visual representation of the structure forming a functional network which may be dynamically updated as new data is added or functions switched in or out. Because, *inter alia*, the network structure dynamically responds to information as it is presented to the network, the visual representation of the network conveniently provides the user with information concerning the characteristics of the database or stream of data that are substantially unavailable through conventional search, filtering, or clustering techniques alone.